

Abstract

This invention provides a novel fluorescent particle including a core or carrier particle having on its surface a plurality of smaller polymeric particles or nanoparticles, which are stained with different fluorescent dyes. When excited by a light source they are capable of giving off multiple fluorescent emissions simultaneously, which is useful for multiplexed analysis of a plurality of analytes in a sample. The coupled complex particles carrying on their surface fluorescent nanoparticles, methods of preparing such polymer particles, and various applications and methods of using such particles are claimed.